

Art Unit: 1724

CLMPTO

11/29/04

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Claims 1 – 11 (canceled)

12. (Amended) A system for fluid clarification comprising:

a mixing chamber;

a flocculation chamber in fluid communication with the mixing chamber;

a flotation chamber in fluid communication with the flocculation chamber;

a buoyant media recovery unit in fluid communication with the flotation chamber and the flocculation chamber; and

solid buoyant media, wherein the solid buoyant media passes from the flocculation chamber to the flotation chamber and the buoyant media recovery unit.

13. The system of claim 12 further comprising a flotation assistance device in fluid communication with the flotation chamber.

14. The system of claim 12 in which the flotation chamber contains lamella plates.

15. The system of claim 12 in which the flotation chamber contains tubes.

16. The system of claim 12 including a baffle in the flotation chamber to direct entering mixed fluid upward.

17. The system of claim 12 in which the flotation chamber contains immersed membranes.

18. (New claim) The system as claimed in claim 13, wherein the flotation assistance device is a dissolved air flotation device.

19. (New claim) The system as claimed in claim 12, wherein the solid buoyant media is selected from the group consisting of finely divided solids, foamed solids, and solids provided with internal voids by processes other than foaming.

20. (New claim) The system as claimed in claim 12, wherein the solid buoyant media consist of plastic powder which has a specific gravity less than 1.0.

21. (New claim) The system as claimed in claim 20, wherein the plastic powder is selected from the group consisting of polyethylene and polypropylene.

22. The system as claimed in claim 12, wherein the flotation chamber has an upper region and a lower region, and wherein the lower region is free of a collection device for solids.

Art Unit: 1724

23. In a system for clarifying water and waste water, comprising:

a mixing chamber;

a flocculation chamber in fluid communication with the mixing chamber; and

a flotation chamber in fluid communication with the flocculation chamber, the

improvement comprising:

a buoyant media recovery unit in fluid communication with the flotation chamber and the flocculation chamber; and

solid buoyant media, wherein the solid buoyant media passes from the flocculation chamber to the flotation chamber and the buoyant media recovery unit.--